

CLAIMS

1. Method for determining the a priori suitability of colourless transparent moulded polymer articles, from a set of such articles, to produce after colouring treatment coloured transparent moulded articles, without coloration defects, characterized in that it comprises :

a) placing in contact at least one principal surface of the colourless articles of the set with a solution of a fluorescent material for a sufficient time to allow penetration of the fluorescent material under the principal surface of the articles ;

b) irradiation of the impregnated articles by means of radiation which activates the fluorescence of the fluorescent material ; and

c) selection of the articles in the set into two sub-sets of which the first is composed of those articles of the set which show a homogeneous fluorescence of their principal surfaces under irradiation and the second is composed of those articles of the set which show a non-homogeneous fluorescence of their principal surfaces under irradiation.

2. Method according to claim 1, characterized in that it additionally comprises:

d) a treatment to deactivate the fluorescent property of the selected articles.

3. Method according to claim 2, characterized in that the deactivation treatment consists of irradiating the selected articles with UV-C radiation.

4. Method according to claim 2, characterized in that the deactivation treatment consists of dipping the selected articles in a bath of a chemical agent which deactivates the fluorescent material.

5. Method according to claim 4, characterized in that the chemical deactivation agent is a benzene alkylsulfonate.

6. Method according to any of the preceding claims, characterized in that in step a) the fluorescent material penetrates under the principal surface of the articles to a depth of 0.1 to 5 μm , preferably 0.5 to 1.5 μm .

7. Method according to any of the preceding claims, characterized in that step b) of irradiation is an irradiation with UV radiation.

8. Method according to any of the preceding claims, characterized in that the solution of fluorescent material is an aqueous solution at a concentration of 10 to 100 ppm, preferably around 20 ppm.

9. Method according to any of the preceding claims, characterized in that the solution of the fluorescent material is at a temperature higher than the glass transition temperature of the polymer material of the articles.

10. Method according to claim 9, characterized in that the temperature of the solution of the fluorescent material is from 85 to 98°C.

11. Method according to any of the preceding claims, characterized in that the polymer material of the articles has a polymerisation shrinkage of at least 7%, preferably at least 10%.

12. Method according to claim 11, characterized in that the polymer material of the articles is obtained by polymerisation of a polymerizable liquid composition comprising a diethylene glycol diallyl carbonate monomer.

13. Method according to any of the preceding claims, characterized in that the moulded articles have a positive optical strength.

14. Method according to any of the preceding claims, characterized in that the fluorescent material is selected from the derivatives of hydrazines and aliphatic amines.

15. Method according to any of the preceding claims, characterized in that the moulded articles are ophthalmic lenses.

16. Method for producing coloured ophthalmic lenses from polymer material, characterized in that it comprises :

a) obtaining a set of ophthalmic lenses made of colourless polymer material ;

b) placing in contact at least one principal surface of the ophthalmic lenses with a solution of a fluorescent material for a sufficient time to allow penetration of the fluorescent material under the principal surface of the ophthalmic lenses ;

c) irradiation of the ophthalmic lenses by means of radiation which activates the fluorescence of the fluorescent material ;

d) selection of the ophthalmic lenses in the set into two sub-sets of which the first is composed of the ophthalmic lenses which show a homogeneous fluorescence of their principal surfaces under irradiation and the second is composed of the ophthalmic lenses which show a non-homogeneous fluorescence of their principal surfaces under irradiation ; and

e) subjecting the ophthalmic lenses of the first sub-set to a colouring treatment.

17. Production method according to claim 16, characterized in that it

additionally comprises, after the selection of the ophthalmic lenses and before the colouring treatment, the application of a treatment to deactivate the fluorescent material of the selected ophthalmic lenses.

5 18. Transparent moulded polymer article, suitable for colouring without defects, containing under one principal surface a thin impregnated layer of a deactivated fluorescent material.

19. Article according to claim 18, characterized in that it is an ophthalmic lens.